HUNTERS POINT NAVAL SHIPYARD, HAER NO. CA-2273-F
COMMERCIAL DRYDOCK AREA, DRYDOCK 3
East of the intersection of Robinson Avenue & Fischer Drive
San Francisco
San Francisco County
California

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
San Francisco, California 97104

HISTORIC AMERICAN ENGINEERING RECORD

Hunters Point Naval Shipyard, Commercial Drydock Area, Drydock 3

HAER No. CA-2273-F

Location: Hunters Point Naval Shipyard, San Francisco, California
USGS Quadrangle Hunters Point, 1993
UTM Coordinates for Drydock 3: 10 mE/556375 mN/4175949

Significance:

Drydock 3 is located within the Hunters Point Naval Shipyard, Commercial Drydock Area. The Hunters Point Naval Shipyard, Commercial Drydock Area is significant at the state level for its important association with the development of commercial shipping and ship-repair in the San Francisco Bay area. The historic area is also a significant example of marine engineering, the work of master engineer, Howard C. Holmes, and a significant example of Neoclassical Revival architecture used for industrial buildings. Drydock 3, engineered by Holmes, and utilized as a commercial ship repair drydock from 1918 - 1941, contributes to the significance of the historic area.

Description:

Drydock 3, constructed in 1916-1918, is currently filled with water to about 6' beneath the coping, and measures 1,005' long, 114' wide and 39' 10" deep (**Photograph 1**). The basin is sheathed in concrete, smooth around the bow and at the entrance end. The top five of twelve altars beneath the coping are currently visible. A series of service galleries line each side of the drydock just beneath the curb (**Photograph 2**). Each gallery has a metal railing around the perimeter. Concrete staircases built into the chamber walls descend into the water. A chain handrail consisting of posts with an eye at the top, and at mid-level support two chains, and stretch around the drydock, with breaks at access points. Remnants of crane tracks are present around the drydock. Original electrically driven capstans were present and operational around the perimeter of the drydock until the Navy began replacing them in the 1940s.

History:

For a detailed history of Hunters Point Naval Shipyard, Commercial Drydock Area, please refer to **HAER No. CA-2273**.

The San Francisco Dry Dock Company, successor of California Dry Dock Company, owned and operated the original Drydock 1 at Hunters Point at the turn of the twentieth century. Since construction of that original drydock at Hunters Point in 1868, ships had increased in size. In order to accommodate the larger commercial ships, San Francisco Dry Dock Company commissioned highly esteemed civil engineer Howard C. Holmes to design a new, larger drydock. City Street Improvement Company finished construction of the new drydock, Drydock 2, in 1903. In 1905, Charles Schwab, on behalf of Bethlehem Steel, purchased Union Iron Works Shipbuilding plant, and in 1908 purchased the Hunters Point drydocks from San Francisco Drydock Company, consolidating the two operations under the Union Iron Works

name. Schwab immediately began planning for the construction of a new, larger drydock at the site.[1]

The Navy entered into contract with Union Iron Works in 1915 for construction of a new drydock at Hunters Point. Preliminary plans called for construction of Drydock 3 north of the two existing drydocks. Howard C. Holmes and Hugo P. Frear both submitted plans and specifications for the new drydock sited in this location. In 1916 Howard C. Holmes submitted specifications to Union Iron Works calling for the obliteration of Drydock 1 and construction of the new drydock in its place, parallel to Drydock 2 (**Photographs 4, 5**). The new drydock would have its own electrically powered pump house, rather than sharing a pump house like Drydocks 1 and 2. Ultimately, Union Iron Works chose to execute this plan and obliterate Drydock 1 to construct Drydock 3.[2]

The specifications Holmes submitted in March 1916 outlined and divided into six separate parts the construction plans of the drydock, and the associated pumping plant, electric equipment, approaches, wharves, caisson, and other appurtenances. Union Iron Works awarded each part as a separate contract. They awarded the first and largest part which included excavation, concrete work, the power and transformer building, pump pit, and discharge and suction tunnels to San Francisco Bridge Company in May 1916. Charles Schwab, of parent company, Bethlehem Shipbuilding, played an active role in the process, calling John A. McGregor, president of Union Iron Works, east in May of 1916 for a conference on construction of the drydock. The papers had reported in February that Holmes had also travelled east on a matter related to the drydock, probably for a meeting with Schwab.[3]

The distinguishing aspect of the new drydock was its great size, which would make it the largest drydock on the Pacific Coast and among the largest in the world. Holmes' specifications called for Drydock 3 to be 1,020' in length, 110' wide at the bottom, and 153' wide at the coping. The interior sides of the drydock had twelve altars at the top and five at the bottom. An open gutter on each side of the drydock drained water at a uniform grade to the discharge tunnel. The entire interior of the drydock, excluding the floor, was plastered with Gunite, composed of one part cement to three parts sharp beach sand. The subfloor of the drydock was constructed of Oregon

---

[1] "Four Wharves to Cost Nearly Half a Million," *San Francisco Call,* October 11, 1900, 12; "Ready to Begin the Construction of a Drydock of Gigantic Size," *San Francisco Call*, November 18, 1900, 23; "Chief Engineer Holmes Resigns His Position," *San Francisco Chronicle,* February 21, 1901, 12; Howard C. Holmes, *Plan Showing Location of Old and New Dry Docks at Hunters Point San Francisco Cal, Property of San Francisco Dry Dock Co*, 1903, Water Resources Center Archives, Berkeley, Charles Derleth Papers, Box 18, Folder 96; "Hunters Point Drydock Merged with Union Iron Works," *San Francisco Call,* November 12, 1908, 1-2; "History of Bethlehem's San Francisco Yard, 1849-1949," *Pacific Marine Review* (October 1949), 27; "Dry Dock is to be Built by S.F. Firm," *San Francisco Chronicle,* May 2, 1916, 1.

[2] Congress, House, Hearings before Committee on Naval Affairs, *Estimates Submitted by the Secretary of the Navy,* 1915; Howard C. Holmes, *Report of Proposed Improvement of Land of South San Francisco Dock Company, 1915,* James D. Phelan Papers, Series 9, Carton 33, Folder 7, Bancroft Library; "New Dry Dock for San Francisco," *Journal of the Society of Naval Engineers* XXVII (1915), 235-240; Howard C. Holmes, *Specifications for a Concrete Graving Dock for the Union Iron Works, Hunters Point, San Francisco,* 1916, M.M. O'Shaughnessy Papers, Subseries 1.3, Carton 10, Folder 22, Bancroft Library.

[3] Holmes, *Specifications,* 1-2; "Dry Dock is to be Built by S.F. Firm," *San Francisco Chronicle,* May 2, 1916, 1; "Work is Begun on Monster Dry Dock at Hunter's Point," *San Francisco Chronicle*, February 20, 1916, 29.

pine timbers with concrete fill flush with the top of the timbers. Covering the entire subfloor to the edge of the gutters, planks of yellow fir were fastened to the floor sills. Bilge timbers and keelsons were anchored into the stone before constructing the floor. Bilge blocks and keel blocks, both of laurel, were placed on both sides of the drydock. Eye bolts opposite the bilge blocks, in the lower altar, would allow hauling ropes to pull bilge blocks away from keelsons. Belaying pins, fastened to the second altar from the top, accommodated coiled rope. Specifications called for ten induction motor-driven electric capstans with cast iron barrels, however later drawings indicate that nine were installed. Electrically powered capstans eliminated manpower necessary to pull rope lines in hand operated capstans. Stairways built into the body of the drydock, each with a brass hand rail, provided access to the trough. Ten electric capstans supplied the winching power for lines securing vessels in place in the drydock. Holmes designed the drydock with a rudder pit, a necessary feature at the time, but rare a few decades later in drydock construction because changes in rudder design made such pits obsolete. A chain handrail, identical to the one installed at Drydock 2, was installed along the curb. Standard gauge crane tracks laid along the perimeter on the posterior side of the capstans, connected into the crane tracks servicing Drydock 2.[4]

Construction of Drydock 3 and Building 140 relieved Building 205 of pumping two drydocks, however Holmes engineered the new system so that Building 205 retained the ability to pump both drydocks in the event of emergency or mechanical failure in Building 140. A tunnel installed from the pump pit under Building 205 connected the pit to Drydock 3.

In the late 1930s, the Navy took interest in acquiring Hunters Point in response to war in Europe and the Pacific. A congressional act in 1939 allowed Bethlehem Shipbuilding to sell Hunters Point to the Navy and in December 1941, after the attack on Pearl Harbor, the Navy moved onto the site. Although operating successfully since 1903 and 1918, the drydocks and pumping houses needed modernizing and rehabilitation to accommodate the Navy's wartime needs. This work began in earnest in early 1942 with construction of new buildings, and particular attention to repair of the drydocks themselves.

Between 1942 and 1943 the Navy added a series of concrete service galleries just below the rim of Drydock 3, followed by a series of new cleats. They relocated the capstan from the bow end of Drydock 3 to Drydock 2 in 1943. A new capstan was installed at the bow end of Drydock 3 to replace the one relocated. One of the more significant alterations to Drydock 3 came in 1952 when the Navy replaced the entire original wood plank drydock floor with reinforced concrete. They added staircases into the chamber walls of the drydock and service lines supplying salt water, compressed air, and chemicals to the full length of the drydock on both sides, near the bottom.[5]

---

[4] *Photograph,* 1903, Box: 11, Folder: Hunters Point Naval Shipyard, Drydocks. Photographs. Multiple Dates, RG 181, NARA (San Bruno); Howard C. Holmes, *Concrete Graving Dock for Union Iron Works Drydock Co., Foundation for Capstans and Outer Rail of Gantry Crane,* February 1916, Hunters Point Naval Shipyard (Building 383); Holmes, *Specifications*, 5-12.

[5] *Photograph*, May 13, 1942. RG 181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74, 9NS-S 181-95-010, Box 1, Folder Hunters Point Aerial Views Folder, 2 of 7; *Photograph*, November 12, 1941, Box 2, Hunters Point Aerial

An inspection report submitted after inspection of all drydocks at Hunters Point in June 1945 noted the presence of serious cracks in the trough walls of Drydock 3. Plans for repair of these cracks and fissures were made in 1946. The report also noted that while the mechanical installations in Drydock 3 were old and in somewhat poor condition, it functioned properly. By 1968, the eight remaining original capstans still functioned when an inspection report concluded that they needed major overhauling. The report cited lack of replacement parts because of age, and increased demand on the capstans because of the much larger size of contemporary ships compared to the ships the capstans had been designed to accommodate as reasons to replace them. The inspection report advised replacement of the four most important capstans.[6]

After World War II the Hunters Point facility continued to serve as a docking area for Navy ships for repair, overhaul, maintenance and conversion. In 1974, the Navy deactivated the shipyard and leased the facility to private industry; however, the Navy continued to station several of its ships at Hunters Point. In 1991, the Base Realignment and Closure (BRAC) Commission identified Hunters Point for closure. Over the next decade, the Navy and City and County of San Francisco negotiated terms for the lease and subsequent transfer of the facility.[7]

Views Folder, 4 of 7, RG 181, NARA (San Bruno); *Location & Details of Cleats at D.D. #2 (M.I.5) & D.D. #3 (M.I.6),* April 9, 1943, Naval Drydocks Hunters Point, Calif., P.W. Drawing No. 114689; *Location Plan for New Capstans at Drydocks 2 & 3,* Naval Dry Docks, Hunters Point, Calif., BRAC PMOW Caretaker Site Office, Treasure Island, P.W. Drawing No. 114691.

[6] *Drydock No. 3, General,* Department of the Navy, Bureau of Yards & Docks, San Francisco, P.W. Drawing No. 116794, April 7, 1954; L. O'Keefe, Inspector's Report, *Replacing Obsolete Capstans, Drydock 3*, July 15, 1968, Hunters Point Naval Shipyard (Building 383); BuDocks letter to Commanding Officer Naval Drydocks, Hunters Point, *Dry Dock Inspection Quarterly Report, Dry Dock No. 3*, June 12, 1945, Folder: N23 Generating Plants, Box 27, Hunters Point General Correspondence, RG 181, NARA (San Bruno); T.L. Davey to Commander, San Francisco Naval Yard, July 17, 1946, Folder: N23 Generating Plants, Box 27, Hunters Point General Correspondence, RG 181, NARA (San Bruno).

[7] JRP Historical Consulting Services, *Historic Context and Inventory and Evaluation of Buildings and Structures, Hunters Point Shipyard, San Francisco*, September 1997, 27-28; "San Francisco Naval Shipyard in Permanent Status," *Pacific Marine Review* (June 1947), 63-65, 120; Bonnie L. Bamburg, *Historical Overview of Hunters Point Annex Treasure Island Naval Base and Descriptions of Properties that Appear Eligible for Listing in the National Register of Historic Places*, Submitted to Western Division, Naval Facilities, Engineering Division, 1988, 44-45; Steven R. Black, Mare Island Naval Shipyard, Historic American Engineering Record for Hunters Point Naval Shipyard, Drydock No. 4, HAER No. CA-181-A, (April 1994) 11-12.

Sources:

Bamburg, Bonnie L. "Historical Overview of Hunters Point Annex Treasure Island Naval Base and Descriptions of Properties that Appear Eligible for Listing in the National Register of Historic Places." Submitted to Western Division, Naval Facilities, Engineering Division, 1988.

Black, Steven R. "Mare Island Naval Shipyard." Historic American Engineering Record for Hunters Point Naval Shipyard, Drydock No. 4, HAER No. CA-181-A, (April 1994).

BuDocks letter to Commanding Officer Naval Drydocks, Hunters Point "Dry Dock Inspection Quarterly Report, Dry Dock No. 3." June 12, 1945. National Archives and Records Administration (San Francisco), RG 181, Box: 27, Hunters Point Naval Shipyard General Correspondence, Folder: N23 Generating Plants.

Davey, T.L. to Commander, San Francisco Naval Yard, July 17, 1946. Correspondence. National Archives and Records Administration (San Francisco), RG 181, Box: 27, Hunters Point Naval Shipyard General Correspondence, Folder: N23 Generating Plants.

"Drydock No. 3, Hunters Point Construction." Photograph, n.d. San Francisco Maritime National Historical Park, Photographic Collection. Photo No. A4.14.896.19ps.

"Drydock No. 3, Hunters Point Construction." Photograph, n.d. San Francisco Maritime National Historical Park, Photographic Collection. Photo No. A4.14.896.24ps.

Holmes, Howard C. "Plan Showing Location of Old and New Dry Docks at Hunters Point San Francisco Cal,Property of San Francisco Dry Dock Co, 1903." Water Resources Center Archives, Berkeley, Charles Derleth Papers, Box 18, Folder 96.

_____. "Report of Proposed Improvement of Land of South San Francisco Dock Company, 1915." Bancroft Library, University of California, Berkeley, Berkeley. James D. Phelan Papers, Series 9, Carton 33, Folder 7.

_____. "Specifications for a Concrete Graving Dock for the Union Iron Works, Hunters Point, San Francisco, 1916." Bancroft Library, University of California, Berkeley, Berkeley. M.M. O'Shaughnessy Papers, Subseries 1.3, Carton 10, Folder 22.

_____. "Concrete Graving Dock for Union Iron Works Drydock Co., Foundation for Capstans and Outer Rail of Gantry Crane, February 1916." Hunters Point Naval Shipyard (Building 383).

Journal of the Society of Naval Engineers
"New Dry Dock for San Francisco," XXVII (1915): 235-240.

JRP Historical Consulting Services. "Historic Context and Inventory and Evaluation of Buildings and Structures, Hunters Point Shipyard, San Francisco." September 1997.

O'Keefe, L. "Inspector's Report, Replacing Obsolete Capstans, Drydock 3." July 15, 1968. Hunters Point Naval Shipyard (Building 383).

Pacific Marine Review

"San Francisco Naval Shipyard in Permanent Status," (June 1947): 63-65.
"History of Bethlehem's San Francisco Yard, 1849-1949," (October 1949), 27-34, 88.

Photograph, 1903. National Archives and Records Administration (San Francisco), RG 181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74. 9NS-S 181-95-010, Box 11, Folder: Hunters Point Naval Shipyard, Drydocks, Photographs, Multiple Dates.

Photograph, November 12, 1941, National Archives and Records Administration (SanFrancisco), RG 181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74. 9NS-S181-95-010, Box 2, Folder 4 of 7.

Photograph, May 13, 1942, National Archives and Records Administration (San Francisco), RG 181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74. 9NS-S 181-95-010, Box 1, Folder Hunters Point Aerial Views Folder, 2 of 7.

San Francisco Call

San Francisco Chronicle

U.S. Department of the Navy, Bureau of Yards & Docks. "Drydock No. 3, General." P.W. Drawing No. 116794, San Francisco, April 7, 1954. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. "Drydock No. 3, Cross Sections." P.W. Drawing No. 116947, Mare Island, April 7, 1954. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. "Drydock No. 3, Longitudinal Section." P.W. Drawing No. 116790, Mare Island, April 7, 1954. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. "Location & Details of Cleats at D.D. #2 (M.I.5) & D.D. #3 (M.I.6), Naval Drydocks, Hunters Point, Calif." P.W. Drawing No. 114689, Mare Island, April 9, 1943. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

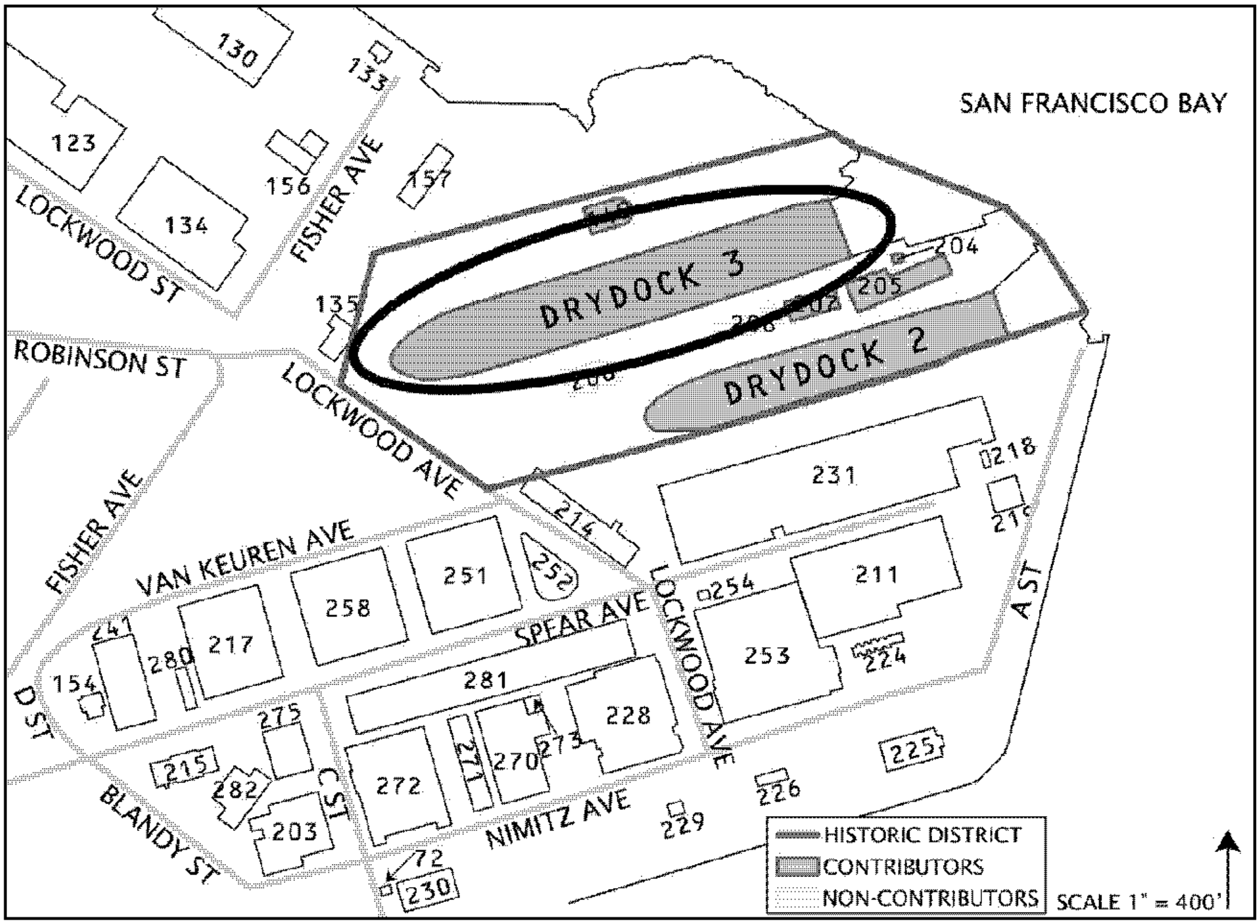
_____. "Location Plan for New Capstans at Drydocks 2 & 3, Hunters Point, Calif." P.W. Drawing No. 114691, Mare Island, n.d. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

United States. "Hearings Before Committee on Naval Affairs of the House of Representatives on Estimates Submitted by the Secretary of the Navy, 1915." Washington: Govt. Print. Off, 1915.

Historians: Heather Norby and Toni Webb
JRP Historical Consulting, LLC
1490 Drew Avenue, Suite 110
Davis, CA 95618
530-757-2521
December 2009

Project Information: This project was undertaken to fulfill the requirements of the *Memorandum of Agreement Among The United States Navy, The Advisory Council for Historic Preservation and The California State Historic Preservation Officer Regarding the Interim Leasing and Disposal of Historic Properties on the Former Hunters Point Naval Shipyard, San Francisco, California.* Heather Norby and Toni Webb of JRP Historical Consulting, LLC (JRP) prepared this document for the Navy. Both Ms. Norby and Ms. Webb conducted fieldwork, contributed to architectural descriptions and the historic context. JRP conducted research at the California State Library, Hunters Point Naval Shipyard (Building 383), National Archives and Records Administration (San Bruno), San Francisco Public Library, San Francisco Maritime National Historical Park Library, and the BRAC PMO West Caretaker Site Office on Treasure Island. William B. Dewey produced the photography.

SITE MAP:


SAN FRANCISCO BAY
DRYDOCK 3
DRYDOCK 2
LOCKWOOD ST
FISHER AVE
ROBINSON ST
LOCKWOOD AVE
VAN KEUREN AVE
SPEAR AVE
D ST
C ST
BLANDY ST
NIMITZ AVE
A ST
130
133
123
156
157
134
135
204
205
218
231
211
251
252
258
217
241
254
253
224
281
280
154
275
228
273
270
271
272
215
282
203
225
226
229
72
230
HISTORIC DISTRICT
CONTRIBUTORS
NON-CONTRIBUTORS
SCALE 1" = 400'